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**REMARKS**

Applicant has reviewed and considered the office action mailed on April 29, 2003 and the references cited therewith.

Claim 20 is amended; as a result, claims 1-25 are now pending in the application.

§ 103 Rejection of the Claims

Claims 1-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Junega et al. (U.S. 6,127,728) in view of Beck (U.S. 2,695,351) and Benzinger et al. (U.S. 3,617,613). Applicant does not admit that Junega et al. is prior art and reserves the right, as provided for under 37 C.F.R. § 1.131, to "swear behind" Junega et al. Applicant respectfully traverses the rejections of claims 1-6.

Claim 1 recites, "[a] circuit board having a circuit board thickness . . . comprising" a "core layer" and a "surface layer having a surface layer thickness that is between about 10% and about 30% of the circuit board thickness." Thus, the circuit board includes a "core layer" and a "surface layer," so the circuit board thickness is equal to the thickness of two layers -- the "core layer" and the "surface layer." The office action, at paragraph 2, states Junega et al. disclose "a surface layer (50) having a surface layer thickness between about 10 and 30% of the circuit board thickness (figure 2)." Applicant respectfully disagrees. As shown in Figure 2 of Junega et al., the core layer (52) has a thickness of .150 mm and the surface layer (50) has a thickness of .100 mm. Hence, the surface layer of Junega et al. has a thickness of 40% (.100mm/.250mm) of the circuit board thickness, so Junega et al. fails to teach or suggest "a surface layer having a surface layer thickness that is between about 10% and 30% of the circuit board thickness." And since neither Beck nor Benzinger et al. teach or suggest "a surface layer having a surface layer thickness that is between about 10% and about 30% of the circuit board thickness," neither Junega et al., nor Beck, nor Benzinger et al., either alone or in combination, teach or suggest each of the elements of claim 1. So the office action fails to state a *prima face* case of obviousness with respect to claim 1.

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Claims 2 and 3 are dependent on claim 1. For reasons analogous to those stated above and elements in the claims, applicant respectfully submits that the office action fails to state a *prima facie* case of obviousness with respect to claims 2 and 3.

Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 1, 2, and 3.

Claim 4 recites, "a surface resin layer having a surface layer thickness that is between about 10% and about 30% of the circuit board thickness." For reasons analogous to those stated above and elements in the claim, applicant respectfully submits that the office action fails to state a *prima facie* case of obviousness with respect to claim 4.

Claims 5 and 6 are dependent on claim 4. For reasons analogous to those stated above and elements in the claims, applicant respectfully submits that the office action fails to state a *prima facie* case of obviousness with respect to claims 5 and 6.

Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 4, 5, and 6.

Claims 16-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the applicant admitted prior art shown in Figure 1 in view of Junega et al. and Benzinger et al. Applicant does not admit that Junega et al. is prior art and reserves the right, as provided for under 37 C.F.R. § 1.131, to "swear behind" Junega et al. Applicant respectfully traverses the rejections of claims 16-18.

Claim 16 recites, "a number of fibers having a fiber thickness of between about .001 inches and about .002 inches." The office action, in paragraph 3, states, "Junega et al. in view of Beck and Benzinger et al. disclose a multiple layer circuit board (2) having a fibrous core with fibers having a diameter in the arrange [sic] of .2 to 14 microns (abstract lines 5-6)." Applicant respectfully submits that fibers having a diameter of .2 to 14 microns does not teach or suggest "a number of fibers having a fiber thickness of between about .001 inches and about .002 inches." (.001 inches = .0254 meters x .001 = 25.4 microns) (.002 inches = .0254 meters x .002 = 50.8 microns) So, none of the cited references, either alone or in combination, teach or suggest "a number of fibers having a fiber thickness of between about .001 inches and about .002

inches." Thus, the office action fails to state a *prima facie* case of obviousness with respect to claim 16.

Claims 17 and 18 are dependent on claim 16. For reasons analogous to those stated above and elements in the claims, applicant respectfully submits that the office action fails to state a *prima facie* case of obviousness with respect to claims 17 and 18.

Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 16, 17, and 18.

Claim 19 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the applicant admitted prior art (AAPA) shown in figure 1 in view of Junega et al. (U.S. 6,127,728), Benzinger et al. (U.S. 3,617,613) and Beck (U.S. 2,695,351). Applicant does not admit that Junega et al. is prior art and reserves the right, as provided for under 37 C.F.R. § 1.131, to "swear behind" Junega et al. Applicant respectfully traverses the rejections of claim 19.

Claim 19 recites, "[a] circuit board having a circuit board thickness . . . comprising" a "core layer" and a "surface layer having a surface layer thickness that is between about 10% and about 30% of the circuit board thickness." Thus, the circuit board includes a "core layer" and a "surface layer," so the circuit board thickness is equal to the thickness of *two layers* -- the "core layer" and the "surface layer." The office action, at paragraph 2, states Junega et al. disclose "a surface layer (50) having a surface layer thickness between about 10 and 30% of the circuit board thickness (figure 2)." Applicant respectfully disagrees. As shown in Figure 2 of Junega et al., the core layer (52) has a thickness of .150 mm and the surface layer (50) has a thickness of .100 mm. Hence, the surface layer of Junega et al. has a thickness of 40% (.100mm/.250mm) of the circuit board thickness, so Junega et al. fails to teach or suggest "a surface layer having a surface layer thickness that is between about 10% and 30% of the circuit board thickness." And since neither Beck, nor Benzinger et al., nor the AAPA teach or suggest "a surface layer having a surface layer thickness that is between about 10% and about 30% of the circuit board thickness," neither Junega et al., nor Beck, nor Benzinger et al., nor the AAPA, either alone or in combination, teach or suggest each of the elements of claim 19. So the office action fails to state a *prima facie* case of obviousness with respect to claim 19.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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Title: CIRCUIT BOARD

Page 11

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*Allowable Subject Matter*

Claims 7-15 and 20-25 were allowed.

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone applicant's attorney at 612-371-2109 to facilitate prosecution of the application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

TONGBI JIANG ET AL.

By their Representatives,

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Date

May 13, 2003

By

Danny J. Padya  
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on this 13 day of May, 2003.

Gina M. Uphus

Name

Signature

Gina Uphus